## (19) World Intellectual Property Organization International Bureau



## 

(43) International Publication Date 28 April 2005 (28.04.2005)

PCT

## (10) International Publication Number WO 2005/037985 A3

(51) International Patent Classification<sup>7</sup>: C12M 3/00, C12N 5/00

(21) International Application Number:

PCT/US2004/033194

(22) International Filing Date: 8 October 2004 (08.10.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/510,348 10 October 2003 (10.10.2003) US 60/510,358 10 October 2003 (10.10.2003) US

- (71) Applicant (for all designated States except US): CELLU-LAR BIOENGINEERING, INC. [US/US]; 1946 Young Street, Suite 480, Honolulu, HI 96826 (US).
- (71) Applicant and
- (72) Inventor: LUI, Ge Ming [US/US]; 55 South Kukui Street, Apt. 2810, Honolulu, HI 96813 (US).
- (74) Agent: CONTRERA, Joseph, G.; Jacobson Holman PLLC, 400 Seventh Street, N.W., Suite 600, Washington, DC 20004 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 27 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOSITION AND METHODS FOR CELL CULTURING AND TISSUE CULTURE PLATFORMS

(57) Abstract: This present invention describes a method of coating a polymer surface with diamond-like carbon (DLC) to render it useful as a carrier for cells derived from neural crest origin, preferable neuronal cells that form dendrites. The biopolymer to be coated with the DLC will include biodegradable polymers and other implantable biopolymers to act as a carrier system for cell transplantation into the various parts of the body, including the brain, the eye, the central and peripheral nervous system, the lung, the liver, the spleen, the kidney, and the bone and cartilage. The biopolymer can be in sheet form or microparticle form, and can be imbedded with, or incorporated into during its synthesis, attachment or growth promoting reagents to enhance and support neuraonal call attachment and growth.

